said optical pickup mechanism has an optical pickup and a driving mechanism for driving said optical pickup in a radial direction of said disc;

said optical pickup comprises a pickup housing made of metal, in which are mounted a laser diode emitting detection light for reproducing or recording information on said disc, a laser driver circuit board for controlling said laser diode, an objective lens driver for guiding the detection light emitted from to a predetermined position on said disc and for guiding reflection light from said disc onto an optical detector, optical parts including a lens, a prism, a mirror, and an optical detector for detecting said detection light; and

said laser diode and said laser driver circuit board are mounted in thermal contact with said pickup housing so as to be disposed adjacent to each other, while providing a thermal separation portion for thermally separating said laser diode and said laser driver circuit board.

2. (amended) A disc driving apparatus as defined in the claim 1, wherein said thermal separation portion comprises a dividing portion formed with either one of a slit portion or a recess gutter, for dividing said pickup housing, disposed between said laser diode and said laser driver circuit board, and a heat separation member disposed in said dividing portion.

Subcl 7 Cont

3. (amended) A disc driving apparatus as defined in the claim 2, wherein said pickup housing is made of metal material having good thermal conductivity, and said thermal separation portion is formed by filling resin material into the separation portion of said pickup housing, thereby to form them in one body.

B1 Cont

4. (amended) A disc driving apparatus, comprising:

a housing of a disc drive;

a rotation mechanism disposed within said housing for rotating a disc;

an optical pickup mechanism disposed within said housing for reproducing or reproducing/recording information on the disc; wherein

said optical pickup mechanism has an optical pickup and a driving mechanism for driving said optical pickup in a radial direction of said disc;

said optical pickup comprises a pickup housing made of metal, in which are mounted a laser diode for emitting detection light for use with a CD, so as to reproduce or record information on said disc, a laser diode for emitting a detection light for use with a DVD, so as to reproduce or record information on said disc, a laser driver circuit board for controlling said laser diode for use with a CD, an objective lens driver for guiding the detection light emitted from to a predetermined position on said disc and for guiding reflection light from said disc onto an optical detector,

optical parts including a lens, a prism, a mirror, and an optical detector for detecting said detection light; and

said laser diode for use with a CD, said laser diode for use with a DVD, said laser driver circuit board and said objective lens driver are mounted in thermal contact with said pickup housing, wherein said laser diode for use with a CD and said laser driver circuit board are disposed adjacent to each other, and a thermal separation portion is provided for thermally separating an area occupied by said laser diodes for use with a CD and DVD and an area occupied by said laser driver circuit board and said objective lens driver within said pickup housing.

5. (amended) A disc driving apparatus as defined in the claim 4, wherein the prism and the mirror of said optical portions and said optical detector are disposed nearer to said laser diodes for use with a CD and DVD than to said thermal separation portion.

6. (amended) A disc driving apparatus as defined in the claim 4, wherein said thermal separation portion is provided so as to thermally separate either one of between said laser diode for use of the CD and said laser diode for use of the DVD, and between said laser driver circuit board and said objective lens driver.

7. (amended) A disc driving apparatus, comprising:

a housing of a disc drive;

a rotation mechanism disposed within said housing for rotating a disc;

an optical pickup mechanism disposed within said housing for reproducing or reproducing/recording information on the disc; wherein

said optical pickup mechanism has an optical pickup and a driving mechanism for driving said optical pickup in a radial direction of said disc;

said optical pickup comprises a pickup housing made of metal, in which are mounted a laser diode for emitting detection light for use with a CD, so as to reproduce or record the information on said disc, a laser diode for emitting detection light for use with a DVD, so as to reproduce or record information on said disc, a laser driver circuit board for controlling said laser diode for use with a CD, an objective lens driver for guiding the detection light emitted to a predetermined position on said disc and for guiding reflection light from said disc onto an optical detector, optical parts including a lens, a prism, a mirror, and an optical detector for detecting said detection light; and

said pickup housing is defined by a sidewall formed all around the periphery thereof and a bottom wall, and said laser diodes for use with a CD and a DVD, said laser driver circuit board and said objective lens driver are mounted therein in thermal contact with said pickup housing, wherein said laser

diode for use with a CD and said laser driver circuit board are disposed so as to be adjacent to each other, and a thermal separation portion is provided for thermally separating an area occupied by said laser diodes for use with a CD and a DVD and an area occupied by said laser driver circuit board and said objective lens driver within said pickup housing.

8. (amended) An optical pickup, comprising:

a laser diode for emitting detection light, so as to reproduce or record information on a disc;

a laser driver circuit board for controlling said laser diode;

an objective lens driver for guiding the detection light emitted from to a predetermined position on said disc and for guiding reflection light from said disc onto an optical detector;

optical parts including a lens, a prism, and a mirror;

an optical detector for detecting said detection light; and

a pickup housing made of metal material, in which said above-mentioned elements are mounted; wherein

said laser diode and said laser driver circuit board are mounted in thermal contact with said pickup housing so as to be disposed adjacent to each other, and a thermal separation portion is provided for thermally separating said laser diode and said laser driver circuit board within said pickup housing.

Subcl 7 Cont'd

B' cont'd

9. (amended) An optical pickup, comprising:

a laser diode for emitting detection light, so as to reproduce or record information on a disc, for use with a CD;

a laser diode for emitting detection light so as to reproduce information on a disc, for use with a DVD;

a laser driver circuit board for controlling said laser diode for use with a CD;

an objective lens driver for guiding the detection light emitted from/to a predetermined position on said disc and for guiding reflection light from said disc onto an optical detector;

optical parts including a lens, a prism, and a mirror;

an optical detector for detecting said detection light; and

a pickup housing made of metal material, in which said above-mentioned elements are mounted; wherein

said laser diode for use with a CD, said laser diode for use with a DVD, said laser driver circuit board and said objective lens driver are mounted in thermal contact with said pickup housing, wherein said laser diode for use with a CD and said laser driver circuit board are disposed adjacent to each other, and a thermal separation portion is provided for thermally separating an area occupied by said laser diodes for use with a CD and a DVD and an area occupied by said laser driver circuit board and said objective lens driver.